



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,712	12/14/2001	Gottlieb-Georg Lindner	213142US0	4111
22850	7590	09/22/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			NGUYEN, NGOC YEN M	
			ART UNIT	PAPER NUMBER
			1754	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/014,712	Applicant(s) LINDNER ET AL.	
	Examiner Ngoc-Yen M. Nguyen	Art Unit 1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The indicated allowability of claims 1-17, with respect to Zr species, is withdrawn in view of the newly discovered reference(s) to Barthel et al (5,591,797). Rejections based on the newly cited reference(s) follow.

The species Zr is examined in this office action.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barthel et al (5,591,797).

Barthel '797 discloses a white, organosilicon-hydrophobicized hydrophobic silica having a BET surface area of 40 to 450 m<sup>2</sup>/g, a carbon content of at least 0.5% by weight and a transition metal content of 10 to 10000 ppm by weight (note claim 1). The transition metal is Ce, Fe, Hf, Cu, Zn, Mn, Ni, Ti or Zr (note claim 2).

The silica used is preferably pyrogenic or precipitated silica (note column 2, lines 56-57).

Art Unit: 1754

When the transition metal is Zr, the surface area is, for example, 400 m<sup>2</sup>/g, the concentration of the Zr is calculated to be about  $2.7 \times 10^{-7}$  to  $2.7 \times 10^{-4}$  for 10 ppm to 10,000 ppm by weight, respectively. This range overlaps the claimed range.

With respect to the encompassing and overlapping ranges previously discussed, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time of invention to select the portion of the prior art's range which is within the range of the applicants' claims because it has been held prima facie case of obviousness to select a value in a known range by optimization for the results. *In re Boesch*, 205 USPQ 215. Additionally, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. *In re Malagari*, 182 USPQ.

Claims 9-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barthel 797 in view of Materne et al (6,172,138).

Barthel '797 is applied as stated above. In the example of Barthel '797, fumed silica is used, the transition metal content is put on the silica in a subsequent step.

The difference is Barthel '797 does not disclose that the doped silica is formed by a co-precipitation process.

Materne '138 discloses that aluminum doped precipitated silicas are formed by a co-precipitated of a silicate and an aluminate (note column 5, lines 26-28). Since the process of forming precipitated silica is well known in the art, it would have been

obvious to one of ordinary skill in the art to optimize the order of addition of the reactants to obtain the desired product.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to produce the silica with the required transition metal content as disclosed in Barthel '797 by a co-precipitation method, as suggested by Materne '138 because it would form the doped silica in one step instead of multiple step.

Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

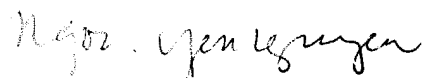
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen M. Nguyen whose telephone number is (571) 272-1356. The examiner is currently on Part time schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Stan Silverman be reached on (571) 272-1358. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed (571) 272-1700.

Application/Control Number: 10/014,712  
Art Unit: 1754

Page 5



Ngoc-Yen M. Nguyen  
Primary Examiner  
Art Unit 1754

nmn  
September 20, 2004